CURRENT NOTES ON METEOROLOGY.

BAROMETER AND WEATHER.

UNDER the title 'Barometer und Wetter,' van Bebber discusses, in the *Archiv der Deutschen Seewarte* (Vol. XXVII., 1904, No. 2, pp. 1–15), the use of the barometer as a 'weather glass,' for foretelling changes of weather; refers to the studies already made to determine the barometer readings which correspond to certain weather conditions, and then investigates the relation between the readings at Hamburg and the rainfall, temperature and cloudiness, for the year, seasons and individual months during the period 1876–1900. It appears that rain falls very infrequently when the barometer is very high; that it is then extremely light, and comes only in the colder months. Rain probability shows a steady increase with decreasing pressure; at extremely high pressures (over 30.50 ins.) there is no precipitation, and at pressures below about 28.90 ins. there is always precipitation. As to temperatures, the departures are negative at the higher pressures and positive at the lower, when averaged for the year. At low pressures the departures are positive in winter and negative in summer. Cloudiness is at a minimum during highest barometric pressure, and at a maximum during low pressure. In winter, however, high pressures are usually accompanied by fog. In Central Europe most of the precipitation of the colder months comes with falling, and of the warmer months with rising pressure, while in the British Isles and over the North Sea area it comes with falling pressure in all seasons. The critical study of these relations of pressure and weather conditions, which are set forth numerically in his paper, leads van Bebber to the conclusion that a reasonably accurate judgment of existing and coming weather can be based on the readings of the barometer, especially when the location of the cyclonic and anti-cyclonic centers can be learned from the newspaper reports. The last paragraph in the article is a quotation from a publication by the same author, dated 1899, to this effect: An experience of twenty-five years has brought Dr. van Bebber to the conclusion that no reorganization of weather service work would be of any value if the present forecasts for a single day following are adhered to. These forecasts have not satisfied the agricultural interests and will not satisfy them in the future. Nor will the forecasts be satisfactory unless the general public understands better than at present the basis on which weather predictions rest.

Dr. van Bebber's work along the line of public education in weather types, and what these types means has been a most valuable one, and the present investigation, which might well be carried on for any number of American stations, is a useful extension of his previous studies.

MONTHLY WEATHER REVIEW: ANNUAL SUMMARY, 1904.

THE value of back numbers of the *Monthly Weather Review* has in the past been very much decreased by the fact that an adequate index has not been prepared for each volume. The index hitherto published has been an author index, arranged alphabetically so far as the authors' names were concerned, but not arranged alphabetically so far as the titles of the papers were concerned. The result has been a large and wholly unnecessary expenditure of time in looking up some special article or note. For the year 1904, we are glad to see, there is a fairly adequate author and subject index, arranged alphabetically as a whole, although the separate articles under different subject-headings are not in all cases alphabetically arranged. Thus, for example, to take only one case, under 'Observatories' we find the following:

The 1904 index is so great an improvement on the old one that we can not help hoping that the 1905 index will be still better. All those who use the *Review* will be grateful for the work of Mr. George A. Loveland, who pre-

pared the index for 1904, and will hope that he may have time next year to make a more complete index for the 1905 volume.

CLIMATE OF JERUSALEM.

PROFESSOR G. ARVANITAKIS, in the *Bulletin de l'Institut Égyptien* (4th ser., No. 49), has published a series of meteorological observations taken at Jerusalem, as well as some notes on the climate of that region. The winds from the east are extremely dry, coming as they do from the Arabian deserts. Rain comes from the western quadrants. Hail is noted as being fairly common in Palestine, and a source of injury to the fruits. The observer says that he seldom saw a heavy rainfall unaccompanied by hail. Cisterns and reservoirs supply water during the dry season of summer, and the heavy dews are very beneficial to vegetation. These dews are characteristic of Palestine, and must be seen to be fully appreciated. The climate is not described as very healthful. Dysentery, fever and rheumatism are not uncommon at Jerusalem, especially during the summer months.

MARINE METEOROLOGICAL SERVICE OF CHILE.

THE meteorological work carried on at the coast stations of Chile, from Arica in the north to the Strait of Magellan in the south, is under the direction of the so-called 'Direccion del Territorio Maritimo' of Chile. Up to the year 1899 this work was in charge of the central observatory at Santiago. An annual volume (*Anuario*) is issued, giving complete tabulations of the data for each of the eighteen stations, and including monthly and annual summaries. Thus far (1903, Vol. V., issued 1904) no discussion of these observations has been included. These littoral stations of Chile have the great advantage of varying but little in their longitude, and of being very near sea level, so that there is much uniformity in these respects. The great climatic interest of Chile, which results from its peculiar position with reference to the Cordillera of South America, and from its extraordinary contrasts in rainfall between the arid north and the rainy south, lends exceptional value to any such data as those included in the volumes here considered.

R. DEC. WARD.

NOTES ON FORESTRY.

WHY PRAIRIES ARE TREELESS.

IN a paper by Alfred Gaskill read before The Society of American Foresters, February 23, the theory that forest fires are responsible for the treeless condition of the prairies was advocated. In support of this by no means new theory, Mr. Gaskill cited some geological, physiographical, climatological and silvical facts which, in his opinion, point most emphatically to the fire origin of all true prairies. He divides the treeless area in the United States into plains and prairie. The former are treeless, primarily because of deficient moisture, and were so from time immemorial. It is different, however, with the prairies; they offer conditions favorable to tree growth and, therefore, their treeless condition presents a riddle clamoring for solution. The great prairie of the United States occupies an irregular area bounded on the east by a line that follows in a general way the ninety-fifth meridian and on the west by a line roughly extending along the ninety-seventh meridian. The eastern boundary is most irregular, its shape corroborating the fire origin of the prairie. In the north it makes a great bend eastward, enclosing half of Iowa, more than half of Illinois, and portions of Wisconsin and Indiana. Along its whole extension the prairie forms lobes and long tongues thrusting eastward into the forest. Since it is proved by the records of the Weather Bureau that the western boundary is within the limit of sufficient rainfall, capable of supporting tree growth, the whole area now occupied by the prairie is situated where forest ought to be, for there is neither lack of rain nor any condition in the soil or the vegetation that will account for the absence of trees. Mr. Gaskill assumes, therefore, that something not entirely normal caused the forest to retreat from its proper position. After a careful and detailed study of the records of forest and prairie fires in the states of Montana, Wyoming, Colorado, Texas, South